

REMARKS

Claims 18, 20-27, 36 and 37 are pending in the instant application. Of those pending claims, Claim 26 has been withdrawn. Reconsideration of the pending claims in light of the amendments presented above and the remarks presented below is respectfully requested.

35 USC § 112

Claim 24 stands rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In particular, the Examiner asserts that there is insufficient antecedent basis for the use of the term “said ETM” in the claim. In light of the amendment presented above, withdrawal of this rejection is respectfully requested.

35 USC § 102

Claims 18, 27, and 36 stand rejected under 35 USC § 102(e) as being anticipated by Heller et al., US Patent No. 6,652,808, filed on December 6, 1998 (“Heller”). In particular, the Examiner asserts that Heller teaches nanobeads or nanoparticles wherein each bead or particle comprises at least a first specific DNA polymer sequence, and microarrays of electrodes having DNA polymer sequences complementary to the sequence attached the beads or particles. In addition, the Examiner asserts that as the beads and particles are described as fluorescent, the beads are electron transfer moieties. The Examiner bases this interpretation of fluorescence as including electron transfer as something “known in the art.”

For an anticipation rejection under 35 U.S.C. §102(e) to be proper, a single reference must expressly or inherently disclose each and every element of a claim. *In re Paulsen*, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994); MPEP § 2131 (citing *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)).

While the Examiner has asserted that activation of fluorescence is known in the art to include electron transfer, Applicants respectfully submit activation of fluorescence does not involve electron transfer, but rather energy transfer in the form of photons. The Examiner is respectfully directed to the Molecular Probes Handbook, page 1, (a copy of which is attached as Exhibit “A” for the Examiner’s convenience) which describes the fluorescence process. The process involves three steps, (1) absorption of a photon from an external energy source, which

causes the fluorophore to change conformation to an excited “singlet” state, followed by (2) relaxation from the excited singlet state to the relaxed singlet state, and finally (3) emission of a photon which causes the fluorophore to return to its original state. At no point does this process involve the transfer of electrons. Accordingly, the Examiner has not shown that Heller teaches electron transfer. Thus, the Examiner has not satisfied his burden in establishing that Heller teaches each and every element of the rejected claims, and therefore withdrawal of the instant rejection is respectfully requested.

35 USC § 103

Claims 20 and 21 stand rejected under 35 USC § 103(a) as being unpatentable over Heller further in view of Sigal et al., US Patent No. 6,319,670, filed on December 23, 1997 (“Sigal”).

To establish a *prima facie* case of obviousness the prior art reference (or references when combined) must teach or suggest all the claim limitations. In addition, the teaching or suggestion to make the claimed combination must be found in the prior art, and not based on applicant’s disclosure. *See, In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) M.P.E.P. §2143.

As discussed above, the Examiner relies on Heller’s use of fluorescent beads and particles as teaching electron transfer moieties. As is also pointed out above, such fluorescent beads and particles are not electron transfer moieties. In addition, the Examiner does not rely on Sigal as teaching electron transfer moieties. As the cited references alone, or in combination, do not teach or suggest all of the claim limitations, the Examiner has not established a *prima facie* case of obviousness, and therefore withdrawal of the instant rejection is respectfully requested.

Similarly, the remaining rejections (Claims 22, 24 and 25) rely on Heller’s disclosure of fluorescent beads and particles as the teaching of electron transfer moieties. Accordingly, the Examiner has also failed to establish a *prima facie* case of obviousness in each of those cases, as the Examiner has not shown that the cited references teach or suggest, alone or in combination, each and every claim limitation. Therefore, withdrawal of each of those rejections is also respectfully requested.

CONCLUSION

Applicants submit that the application is in form for allowance and early notification of such is requested. If the Examiner believes that any unresolved issues may be disposed of by telephone, he is respectfully requested to call the undersigned at (415) 781-1989. This paper is filed under 37 C.F.R. section 1.34(a).

Respectfully submitted,
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